REMARKS/ARGUMENTS

Claims 58-104, newly presented, remain this application. Claims 1-19, 27-33 and 46-57 are canceled by the foregoing amendments. Claims 20-26 and 34-45 were previously canceled.

Claim Rejections – 35 USC § 102/103

Claims 1-3, 5-19, 27-34, 46-53 and 56-57 were rejected under 35 U.S.C. §102(b) as being anticipated by Sanmugam (US Patent No. 5,533,094). Claim 1, 27, 46, 49 and 56 were rejected under 35 U.S.C. §102(b) as being anticipated by Miah et al. (EP 1217855 A1). Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Sanmugam in view of Weber et al. (US Patent No. 6,314,282). Claims 54-55 were rejected under 35 U.S.C. §103(a) as being unpatentable over Sanmugam in view of Palat et al. (US Patent No. 6,765,890).

Applicant respectfully disagrees with the aforementioned rejections, but in the interest of advancing the prosecution of this application, applicant has canceled the claims of record without prejudice or admission and submitted new Claims 58-104. Applicant respectfully submits that the cancellation of Claims 1-19, 27-33 and 46-57 renders moot the prior art rejection of the aforementioned claims under 35 U.S.C. § 102 and 103. Applicant also respectfully submits that new Claims 58-104 are clearly patentably distinct from Sanmugam and Miah as both fail to teach, suggest, or describe all claim limitations of the new claims.

New Claims 58-104

Each of the newly presented independent claims are generally directed to *distributed packet-based paging*. More specifically, the newly presented claims are directed to *distributed packet-based paging* where access nodes process and route incoming and outgoing pages to and from one another, as well as to end nodes which are the intended recipients of the pages, in accordance with predefined localized rules and parameters. A distributed packet-based paging architecture is radically different from prior art systems.

(i) Distributed Architecture versus Centralized:

The paging systems of both Sanmugam and Miah are centralized, i.e., where certain functions such as processing of a page request, classifying the page request, determining some paging details, sending paging orders, awaiting paging response, etc, are all performed by a centralized network node, e.g., MSC. Further the set of base stations through which pages are sent are represented as affiliated with a particular controlling node, e.g., MSC. In each of the independent claims, the paging mechanisms are defined to support a distributed architecture where all of those functions are distributed to the network edge, i.e., to access nodes.

Distributing the functions in this way creates considerable challenges, in that paging requirements corresponding to different end nodes in the network, e.g., mobile nodes, must be determined by different access nodes, e.g., base stations. Additionally, a particular access node, e.g., base station, though which pages are sent, must receive and process paging requests from a large number of other access nodes, e.g., base stations. To do this, each access node is provided with the necessary intelligence (PRD and/or PRC modules) as set forth in the claims.

(ii) Data Packet Triggered Paging versus control signal paging:

Neither Sanmugam nor Miah teach or suggest that paging can be based on anything other than a control signal, e.g., a paging request. Each of the independent claims are directed to initiating paging based on processing of a data message destined for an intended end node, e.g., mobile node. The processing of a data message allows not only classification, and thus paging differentiation, based on things like the source or destination, but also things like the type, e.g., protocol type, as well as other fields in the header and/or payload of the packet. This allows paging differentiation based on the application, application data flow, or even a particular packet within an application data flow, e.g., TCP SYN packets, SIP INVITE messages, etc. This is a patentably distinct and unique aspect of the packet data cellular network developed by Qualcomm, but is generally applicable to any packet data system. This is also very powerful as the wireless industry moves toward converged data based cellular networks (i.e., VoIP and SIP signaling are just particular types of data traffic).

(iii) Rich Paging Differentiation and Treatment

Both Sanmugam and Miah describe prioritization of pages. The presently claimed invention provides for much richer paging differentiation, or more diverse set of treatments (i.e., priority is just one of many possible treatments described). Those is no suggestion, for example in Sanmugam for anything other than priority. The claimed invention includes latency bounds, selective acknowledgments, variable retransmissions, partial packet payload delivery, and fraction resource allocation to an identified group of end nodes, among others. Also, the distributed nature of the paging mechanism allows for a page to include instructions or commands to direct an end node, to perform a particular action, e.g., change to a particular state. For application data flow based paging, the ability to have such rich differentiation is critical as not every page is to establish a voice call as in Sanmugam and Miah.

In view of the foregoing remarks, independent claims 58, 59, 70, 81 and 92 are all believed to be patentably distinct and therefore allowable over the prior art of record.

Claims 60-69, 71-80, 82-91 and 93-102 depend on and contain all of the limitations of a corresponding independent claim and should therefore also be allowable for the same reasons set forth above.

CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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